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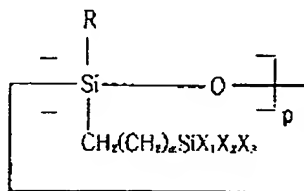
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(54) SILOXANE-BASED RESIN AND METHOD FOR FORMING INTERLAYER INSULATING FILM OF SEMICONDUCTOR BY USING THE SAME

(57) Abstract:

PURPOSE: Provided are a siloxane-based copolymer having very low dielectric constant, and a method for forming an interlayer insulating film of semiconductor having low dielectric constant by using the same. CONSTITUTION: The siloxane-based resin is produced by hydrolyzing and polycondensing a cyclic siloxane compound having a structure of formula 1 and a silane compound having a structure of formula 2:  $\text{SiX}_1\text{X}_2\text{X}_3\text{X}_4$  in organic solvent in the presence of a catalyst and water. In the formula 1, R is a hydrogen atom, alkyl group having C1-C3, cycloalkyl group having C3-C10 or aryl group having C6-C15; X1, X2 and X3 are, independently, an alkyl group having C1-C3, alkoxy group having C1-C10 or halogen group, wherein at least one of X1, X2 and X3 are alkoxy or halogen group; p is an integer of 3-8; and m is an integer of 1-10, and in the formula 2, X1, X2, X3 and X4 are, independently, an alkoxy group having C1-C10 or halogen group.



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